

## AUSTRALIAN BLATTIDÆ.

## PART I.—NOTES AND PRELIMINARY DESCRIPTIONS OF NEW SPECIES.

BY ELAND SHAW, M.R.C.S.

*(Read before the Field Naturalists' Club of Victoria, 12th Oct., 1914.)*

THE National Museum, Melbourne, recently placed in my hands for determination a number of Australian BLATTIDÆ, and amongst them are some new species. In my own collection there are also several species which I consider to be new, and it had been my intention to have included them all in a more extended paper which has been in preparation for some time. Circumstances, however, prevent my going on with this for the moment, and, as it is advisable that the publication of the descriptions of some of the new species should not be delayed, the present paper is written; and, the work being done hurriedly, I crave indulgence for the many faults which it contains. I wish to express my thanks to my friend Mr. F. P. Spry for kindly reading the proof for me in my absence, and I hope to deal with the rest of the material under consideration on my return from Papua.

The word "TYPE" is used to signify only the actual specimens from which a description is written, and its use prohibits the use of the word "cotype" in respect of the same species. By "COTYPE" I mean the actual specimens from which a description is written, where more than one specimen has been used to describe from; and the use of the word "cotype" prohibits the use of the word "type" in respect of the same species.

The expression "an immature" applied to Orthoptera I use to signify the insect in any stage after emergence from the egg up to its last moult.

ESCALA CIRCUMDUCTA, Walker.

*Blatta circumducta*, Walk., Cat. Blatt. B. M., Suppl., p. 142 (1869).

*Escala circumducta*, Shelf., Trans. Ent. Soc. Lond., 1906, p. 239, pl. xv., fig. 4.

*Loboptera circumcincta*, Tepper, Trans. Roy. Soc. S. Aust., 1893, p. 37.

Mr. Shelford, in Trans. Ent. Soc. Lond., 1906, p. 240, writing of the genus ESCALA, says:—"I have seen no female examples of the genus"; and in Faun. Sud-West Austr., Band. II., Lief 9, p. 133 (1909), writing of *Loboptera circumcincta*, Tepper, and *L. duodecemsignata*, Tepper, he says:—"The males of these two species must be extremely rare, as they have never been discovered, though the females are common enough."

Observations in the field clearly point to the fact that *L. circumcincta*, Tepper, is the ♀ of *E. circumducta*, Wlk. Mr. Tepper certainly describes ♂ and ♀ of *L. circumcincta*, the former of which only, he says, has lobiform elytra, the latter being wholly wingless; but I am informed by the South Australian Museum that the ♀ type of *L. circumcincta*, Tepp., has the elytra torn off, a fragment being left on one side. Probably Mr. Tepper overlooked this. My field observations are:—From 22nd to 27th March, 1914, I took a cockroach in great abundance near Healesville, under the bark of *Eucalyptus viminalis*; ♂ and ♀ closely associated, and no other cockroach in their company. I also took some ♂ on the wing at night. All the ♂ were *E. circumducta*, Wlk., all the ♀ *L. circumcincta*, Tepp., and no ♀ was taken with the ootheca attached. On 11th April following, Mr. Reginald Kelly and I, collecting from the same trees, found but one ♂, whilst the ♀ were very abundant, many of them carrying oothecæ partly extruded.

**POLYZOSTERIA MAGNA, sp. nov.**

Above dull piceous, smooth, with a faint shagreening towards the margins. Stigmata well marked; below rufo-stramineous; ocelliform spots present. Antennæ ochreous. Thoracic tergites above with margins not reflected; beneath rufo-stramineous, deepening in colour towards the margins, and furnished with numerous small fuscous maculæ. Legs rufo-fuscous. Spines of the tibiæ bi-seriately arranged. Supra-anal lamina—♂ quadrate, slightly emarginate, posterior third brownish; ♀ compressed, deeply emarginate. Cerci short, flattened, blunt at the apex, ochreous with brownish margins. Subgenital lamina—♂ sub-quadrate, styles lateral, incurved, brownish, tipped with ochreous; ♀ valves rufo-stramineous. In both sexes the supra-anal lamina is considerably shorter than the sub-genital.

*Length*.—♂, 46 mm.; ♀, 46 mm.

*Types*.—♂ and ♀, National Museum, Melbourne.

*Habitat*.—Ouyen, Mallee district, Victoria, Australia.

It seems best to leave this fine species temporarily in the genus *Polyzosteria*, although it presents several marked differences from it, and it may be necessary to erect a new genus for its reception.

**EUZOSTERIA METALLICA, sp. nov.**

Purplish-bronze above, shot with green. Greenish-bronze below. Head greenish-bronze. Antennæ greenish-piceous. Margins of thoracic and abdominal tergites incrassated, the former scarcely reflexed. Coxæ not margined with ochreous. Extreme tips of the femora above and below ochreous. Stigmata very distinct. Supra-anal lamina—♂ quadrate;

♀ compressed in the middle, not emarginate. Cerci broad, flattened, acuminate, of a rich peacock-green above and on the outer margins; below brownish; extreme apices tipped with ochreous, considerably longer than the lamina in ♂, but of the same length in ♀. Sub-genital lamina—♂, sub-quadrate posterior margin rounded, styles lateral, long, and incurved; ♀, sub-genital valves concolorous. Tibial spines rufous tipped with castaneous, bi-seriately arranged. Tibiæ on the inner aspect furnished with a thick fringe of rufo-testaceous hairs.

*Length*.—♂, 22.5 mm.; ♀, 23 mm.

*Types*.—♂ and ♀, National Museum, Melbourne.

*Habitat*.—Mount Erica, Baw Baw, Victoria, Australia (Mr. E. O. Armytage).

*PLATYZOSTERIA PULLATA*, sp. nov.

Allied to *P. analis*, Sauss., but differing in the abdomen being convex, not depressed, and being narrower in proportion to the thorax than in that species. In *P. analis*, Sauss., the fourth abdominal tergite is the broadest portion of the insect, and is broader than the metanotum, whilst in this species this relation is reversed. The yellow margins of the coxæ are narrower than in *P. analis*, Sauss. The sub-genital lamina is much more deeply emarginate.

*Length*.—♂, 27 mm.

*Type* of ♂ in my collection.

*Habitat*.—Mount Baw Baw, Victoria, Australia.

*PLATYZOSTERIA BRIGITÆ*, sp. nov.

Piceous, nitid. Thoracic tergites with some impressed dots, somewhat scabrous laterally, most marked at the posterior angles of the metanotum. Rudiments of the elytra separated from the mesonotum for rather more than one-third of their length on the inner side, sub-acuminate. Antennæ brown, except the basal joints, which are piceous. Abdominal tergites 1 to 5 scabrous laterally; 6 and 7 with the posterior two-thirds scabrous. Lateral margins of the 7th abdominal tergite serrate. Supra-anal lamina, ♂ and ♀, emarginate and denticulate. Cerci longer than the lamina in ♂, of about the same length in ♀; tipped with rufo-fuscous. Legs piceous, extreme margins of the posterior coxæ edged with rufo-fuscous. Tarsi with the distal joint and ungues rufo-fuscous.

*Length*.—♂, 16 mm.; ♀, 19 mm.

*Types*.—♂ and ♀ in my collection.

*Habitat*.—Victoria, Australia.

This species I found very abundant in the Healesville district. It varies considerably in size, many adult examples being smaller than the types, and a few larger. It is near to *P. biglumis*, Sauss., but is consistently piceous, without yellow

coxal borders, and more scabrous. The faint brownish edge of the coxæ can only be seen in a good light, and is indistinguishable in many examples. The denticulations of the supra-anal lamina vary in number from 5 to 10 in different specimens. They also usually vary in number on opposite sides of the same specimen. A long series was examined.

PLATYZOSTERIA CASTANEA, Brunner.

This species, which is common in the Healesville district of Victoria, assumes a characteristic attitude when disturbed, and this attitude is, as far as I know, peculiar to itself. When found on the ground under loose wood or bark the insect runs quickly under leaves or twigs, or other small cover which may be adjacent: but if the ground is bare of such cover it tilts forward on the vertex, and straddles out the posterior legs, supporting itself in a vertical position on the head and posterior tarsi, and showing the ventral surfaces of the coxæ, which are also margined with ochreous. In this position it remains rigid for some time, and does not move if touched by the hand or by a twig. In assuming this attitude it will squirt a foetid fluid at the approaching hand, and this may be felt as a fine spray at a distance of 6 or 7 inches.

CUTILIA SUBBIFASCIATA, Tepper.

*Drymaplaneta subbifasciata*, Tepp., Trans. Roy. Soc. S. Aust., xvii., p. 112 (1893).

*Platyzosteria subbifasciata*, Shelf., Trans. Ent. Soc. Lond., 1909, p. 286.

Mr. Tepper, as Mr. Shelford points out, founded his genus *Drymaplaneta* on an immature condition of the sub-genital lamina; and a "cotype" of this species, which the South Australian Museum kindly presented to me recently, is undoubtedly an immature. As adult examples in good condition are now available, it seems advisable to select types of the ♂ and ♀. This I have done, and add a note of differences between the adult insect and Mr. Tepper's description, viz. :—

The broad lateral yellow margin, which in the immature extends to the abdominal tergites, is in the adult confined to the thoracic tergites, although in some specimens it may in part persist as a series of spots. Rudiments of elytra present, and entirely separated from the mesonotum, usually piceous, but in some examples with the disc ochreous, or with ochreous spots. Yellow border also extending along the posterior border of the mesonotum, interrupted in the middle. Posterior metatarsus long, biserially spined beneath, its pulvillus occupying about one-third of the joint. Sub-genital lamina of the ♀ of the usual bivalvular Blattine form.

Length.—♂, 24 mm.; ♀, 27 mm.

# AUSTRALIAN BLATTIDÆ.

## PART I.—NOTES AND PRELIMINARY DESCRIPTIONS OF NEW SPECIES.

BY ELAND SHAW, M.R.C.S.

(Read before the Field Naturalists' Club of Victoria, 12th Oct., 1914.)

THE National Museum, Melbourne, recently placed in my hands for determination a number of Australian BLATTIDÆ, and amongst them are some new species. In my own collection there are also several species which I consider to be new, and it had been my intention to have included them all in a more extended paper which has been in preparation for some time. Circumstances, however, prevent my going on with this for the moment, and, as it is advisable that the publication of the descriptions of some of the new species should not be delayed, the present paper is written; and, the work being done hurriedly, I crave indulgence for the many faults which it contains. I wish to express my thanks to my friend Mr. F. P. Spry for kindly reading the proof for me in my absence, and I hope to deal with the rest of the material under consideration on my return from Papua.

The word "TYPE" is used to signify only the actual specimens from which a description is written, and its use prohibits the use of the word "cotype" in respect of the same species. By "COTYPE" I mean the actual specimens from which a description is written, where more than one specimen has been used to describe from; and the use of the word "cotype" prohibits the use of the word "type" in respect of the same species.

The expression "an immature" applied to Orthoptera I use to signify the insect in any stage after emergence from the egg up to its last moult.

ESCALA CIRCUMDUCTA, Walker.

*Blatta circumducta*, Walk., Cat. Blatt. B. M., Suppl., p. 142 (1869).

*Escala circumducta*, Shelf., Trans. Ent. Soc. Lond., 1906, p. 239, pl. xv., fig. 4.

*Loboptera circumcincta*, Tepper, Trans. Roy. Soc. S. Aust., 1893, p. 37.

Mr. Shelford, in Trans. Ent. Soc. Lond., 1906, p. 240, writing of the genus ESCALA, says:—"I have seen no female examples of the genus"; and in Faun. Sud-West Austr., Band. II., Lief 9, p. 133 (1909), writing of *Loboptera circumcincta*, Tepper, and *L. duodecimsignata*, Tepper, he says:—"The males of these two species must be extremely rare, as they have never been discovered, though the females are common enough."



Observations in the field clearly point to the fact that *L. circumcincta*, Tepper, is the ♀ of *E. circumducta*, Wlk. Mr. Tepper certainly describes ♂ and ♀ of *L. circumcincta*, the former of which only, he says, has lobiform elytra, the latter being wholly wingless; but I am informed by the South Australian Museum that the ♀ type of *L. circumcincta*, Tepp., has the elytra torn off, a fragment being left on one side. Probably Mr. Tepper overlooked this. My field observations are:—From 22nd to 27th March, 1914, I took a cockroach in great abundance near Healesville, under the bark of *Eucalyptus viminalis*; ♂ and ♀ closely associated, and no other cockroach in their company. I also took some ♂ on the wing at night. All the ♂ were *E. circumducta*, Wlk., all the ♀ *L. circumcincta*, Tepp., and no ♀ was taken with the ootheca attached. On 11th April following, Mr. Reginald Kelly and I, collecting from the same trees, found but one ♂, whilst the ♀ were very abundant, many of them carrying oothecæ partly extruded.

**POLYZOSTERIA MAGNA, sp. nov.**

Above dull piceous, smooth, with a faint shagreening towards the margins. Stigmata well marked; below rufo-stramineous; ocelliform spots present. Antennæ ochreous. Thoracic tergites above with margins not reflected; beneath rufo-stramineous, deepening in colour towards the margins, and furnished with numerous small fuscous macule. Legs rufo-fuscous. Spines of the tibiæ bi-seriately arranged. Supra-anal lamina—♂ quadrate, slightly emarginate, posterior third brownish; ♀ compressed, deeply emarginate. Cerci short, flattened, blunt at the apex, ochreous with brownish margins. Subgenital lamina—♂ sub-quadrate, styles lateral, incurved, brownish, tipped with ochreous; ♀ valves rufo-stramineous. In both sexes the supra-anal lamina is considerably shorter than the sub-genital.

*Length*.—♂, 46 mm.; ♀, 46 mm.

*Types*.—♂ and ♀, National Museum, Melbourne.

*Habitat*.—Ouyen, Mallee district, Victoria, Australia.

It seems best to leave this fine species temporarily in the genus *Polyzosteria*, although it presents several marked differences from it, and it may be necessary to erect a new genus for its reception.

**EUZOSTERIA METALLICA, sp. nov.**

Purplish-bronze above, shot with green. Greenish-bronze below. Head greenish-bronze. Antennæ greenish-piceous. Margins of thoracic and abdominal tergites incrassated, the former scarcely reflexed. Coxæ not margined with ochreous. Extreme tips of the femora above and below ochreous. Stigmata very distinct. Supra-anal lamina—♂ quadrate;